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(54) Title: METHOD OF MAKING PLANT ARTIFICIAL CHROMOSOMES

(57) Abstract: Disclosed are methods of making plant artificial chromosomes. In one embodiment, the method entails: (a) preparing recombinant protoplasts of a first plant species containing an exogenous nucleic acid (e.g., DNA) of interest; (b) producing chromosome fragments of chromosomes contained in the recombinant protoplasts; (c) fusing the recombinant protoplasts of (b) with protoplasts of a second plant species to produce fused protoplasts, wherein the first and second plant species may be the same or different; and (d) identifying fused protoplasts of (c) or cells derived from the fused protoplasts f (c) that contain chromosome fragments that exhibit normal plant chromosomal properties. The chromosome fragments may be moved from one plant species to another. Whole plants, plant cell cultures and intermediates of same are also provided.